Cosmology Workshop Group Five – The Black Holes
Cosmic Annihilation

Welcome to the Cosmic Annihilation Show, a show to educate kids like you and me in the field of cosmology. The subject we will discuss is annihilation. Annihilation is when matter and antimatter meet and destroy each other, producing energy, thus, $E=MC^2$. Also, the positron is known as the antiparticle of the electron. The positron is just like the electron, but with a positive charge.

Annihilation can happen with positron decay, which is when a proton, just by chance, decays into a neutron, a positron, and one neutrino. Positron decay is also known as beta plus decay. Immediately, the positron moves away from the neutron.

And again, just by random probability, the positron and electron spontaneously meet and collide. Since the momentum and energy are both conserved, the collision produces an enormous blast of energy, which comes in the form of gamma rays. Specifically, two gamma rays are formed.

And now you know how annihilation of a positron and electron occurs. Please tune in again for the next episode of Cosmic Annihilation.